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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,773	02/09/2004	David M. Fried	BUR920010120US2 (15040A)	8835
23389	7590	04/05/2005	EXAMINER	
SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			LUU, CHUONG A	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,773

Applicant(s)

FRIED ET AL.

Examiner

Chuong A. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/9/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The Rejections

Claims 11-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Inaba et al. (U.S. 6,525,403 B2).

Inaba discloses a semiconductor projection with

(11) a structure having at least one vertically oriented semiconductor body present thereon, wherein said at least one vertically oriented semiconductor body has vertically surfaces;

a doped region present in said at least one vertically oriented semiconductor body that extends inward from said vertical surfaces (see column 9, lines 5-12);

contacts present on outer portions of said at least one vertically oriented semiconductor body, wherein said doping region and said contacts are of the same dopant type thereby providing a resistor in said at least one vertically oriented

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semiconductor body (see column 8, lines 27-57);

(12) wherein said at least one vertically oriented semiconductor body is comprised of single crystalline Si (see column 1, lines 25-30);

(13) wherein said at least one vertically oriented semiconductor body has a hard mask present atop a horizontal surface (see column 7, lines 31-39);

(14) wherein said at least one vertically oriented semiconductor body has a patterned masking layer thereon, said patterned masking layer not covering said contacts (see Figure 7);

(15) wherein said patterned masking layer is comprised of a conductive material (see column 14, lines 1-10);

(16) wherein said patterned masking layer is comprised of a non-conductive material (see column 7, lines 31-39).

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The Rejections

Claims 17-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Inaba et al. (U.S. 6,525,403 B2) in view of Goth et al. (U.S. 4,743,565) and further in view of Hu et al. (U.S. 6,413,802 B1).

Inaba teaches everything above except for wherein said resistor is replaced with a diode; wherein said diode includes said contacts that are of opposite dopant style; where said diode includes said contacts wherein one of the contacts comprises a doped region having a conductivity type dopant which is different from said dopant region and the other contact is a silicide. However, Goth discloses bipolar transistor with **(17)** wherein said resistor is replaced with a diode; **(18)** wherein said diode includes said contacts that are of opposite dopant style (see column 6, lines 50-68; column 7, lines 1-9 and column 8, lines 28-44). Furthermore, Hu discloses a FinFet device with **(19)** where said diode includes said contacts wherein one of the contacts comprises a doped region having a conductivity type dopant which is different from said dopant region and the other contact is a silicide (see column 4, lines 14-50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Inaba (accordance with the teachings of Goth and Hu). Doing so would facilitate the manufacture of the semiconductor structure and increase the speed performance of the device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong A. Luu whose telephone number is (571) 272-1902. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong Anh Luu
Patent Examiner
March 22, 2005